

# AUTOMATED LAMP FOCUS CONTROL FOR SLM-BASED ELECTRONIC PROJECTION SYSTEMS

## ABSTRACT

5       Methods for measuring and automatically controlling  
the light distribution and overall brightness in  
electronic-based spatial light modulator projection  
display systems. One method takes a small fraction of  
the projected light from a partial turning mirror 407 in  
10 the projector's optics path and focuses this light on to  
a detector 420 for use in controlling the light  
distribution and brightness of the system. Another  
method uses an array of embedded light sensors 518-522 at  
chosen locations on the surface of a display screen 517  
15 to control the light distribution and brightness  
parameters of the projection system. Both methods use a  
micro-controller, servomotors, and an adjustable power  
supply, controlled by the detector/sensor outputs, to  
maintain the desired light distribution and brightness in  
20 the projected image.